

AMENDMENT TO THE CLAIMS

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272. (previously presented): An identification card printer comprising:

a ribbon cartridge containing a supply of print ribbon and having a cleaner roller including a debris-collecting surface;

a card cleaner roller having a debris-collecting surface configured to engage the debris-collecting surface of the cleaner roller and remove debris from a surface of a card fed along a print path; and

a printhead configured to print an image using the print ribbon.

273. (previously presented): The printer of claim 272, further comprising:

a card input; and

a card transport configured to feed the card from the card input along the print path.

274. (previously presented): The printer of claim 273, wherein the printhead is positioned below the print path and is configured to print the image on a bottom surface of the card.

275. (previously presented): The printer of claim 274, wherein the debris-collecting surface of the card cleaner roller is positioned adjacent a bottom side of the print path and between the printhead and the card input.

276. (previously presented): The printer of claim 272, wherein the ribbon cartridge includes a cartridge housing supporting supply and take-up spools, on which the supply of print ribbon is wound.

277. (previously presented): The printer of claim 276, wherein the print ribbon extends over the printhead, which is positioned within a gap between the supply and take-up spools.

278. (previously presented): The printer of claim 272, further comprising:

a supply circuit mounted to the ribbon cartridge, the supply circuit including a memory containing supply information including a value;

a supply circuit reader configured to communicate with the supply circuit; and

a controller configured to access the supply information using the supply circuit reader and to adjust the value based on use of the print ribbon.

279. (previously presented): The printer of claim 278, wherein the value corresponds to a number of prints remaining and the controller is configured to decrement the value in response to use of the print ribbon.

280. (previously presented): The printer of claim 279, wherein the controller is further configured to disable use of the memory when the value reaches a predetermined end value.

281. (previously presented): The printer of claim 278, wherein the controller is further configured to disable use of the memory when the value reaches a predetermined end value.

282. (previously presented): The printer of claim 278, wherein the supply information includes encrypted supply information and the controller is configured to decrypt the encrypted supply information.

283. (previously presented): The printer of claim 272, further comprising:  
a supply circuit mounted to the ribbon cartridge, the supply circuit including a memory containing supply information including encrypted supply information that has been encrypted in accordance with a first encryption method;  
a supply circuit reader configured to communicate with the supply circuit; and  
a controller configured to retrieve the supply information from the supply circuit using the supply circuit reader and decrypt the encrypted supply information.

284. (previously presented): The printer of claim 283, wherein the controller is further configured to re-encrypt the supply information in accordance with a second encryption method using the supply circuit reader.

285. (previously presented): The printer of claim 284, wherein the second encryption method is different from the first encryption method.

286. (previously presented): The printer of claim 284, wherein the controller is configured to decrypt the re-encrypted supply information.

287. (previously presented): The printer of claim 272 including a supply circuit mounted to the ribbon cartridge, the supply circuit including a memory containing supply information relating to the supply of print ribbon.

288. (previously presented): The printer of claim 287 including a printer controller and a supply circuit reader, the printer controller configured to access the supply information using the supply circuit reader.

289. (previously presented): The printer of claim 287, wherein the supply information includes a lot code, a supplier code, a ribbon type, a security code, a printer configuration setting, a number of prints completed, or a number of prints remaining.

290. (previously presented): The printer of claim 287, wherein the supply information is encrypted.

291. (previously presented): An identification card printer comprising:  
a supply of print ribbon;  
a printhead configured to print an image on a surface of a card using the supply of print ribbon;  
a memory containing firmware;  
a controller configured to execute the firmware; and  
a loader program stored in a tangible medium and executable by the controller, the loader program configured to decrypt and load encrypted firmware upgrades into the memory.

292. (previously presented): The printer of claim 291, wherein the loader program is stored in the memory.

293. (previously presented): An identification card printer comprising:  
a card transport configured to feed a card along a print path;  
a supply of print ribbon; and  
a printhead configured to print an image on a surface of the card using the supply of print ribbon, wherein the printhead is movable between a print position, in which print elements are positioned adjacent the print path for printing on the surface of the card, an idle position in which the print elements are lowered relative to the print position, and a full-down position in which the print head is lowered relative to the idle position.

294. (previously presented): The printer of claim 293, further comprising a printhead biasing mechanism configured to resist movement of the printhead from the full-down position.

295. (previously presented): The printer of claim 293, wherein the printhead includes a thermal printhead.

296. (previously presented): The printer of claim 293, wherein the printhead is removable through an opening in a base.

297. (previously presented): The printer of claim 293, further comprising a motor, a first cam member driven by the motor and a second cam member attached to the printhead, wherein movement of the first cam member by the motor moves the printhead through engagement with the second cam member.

298. (previously presented): The printer of claim 297, further comprising a position sensor detecting a position of the printhead.

299. (currently amended): An identification card printer comprising:  
a ribbon cartridge containing a supply of print ribbon;  
a supply circuit mounted to the ribbon cartridge, the supply circuit including a memory containing supply information that has been encrypted;  
a supply circuit reader configured to communicate with the supply circuit; and  
a controller configured to access the supply information using a the supply circuit reader and to decrypt the supply information.

300. (previously presented): The printer of claim 299, wherein:  
the supply information is encrypted in accordance with a first encryption method; and  
the controller is further configured to re-encrypt the supply information in accordance with a second encryption method.

301. (previously presented): The printer of claim 300, wherein the second encryption method is different from the first encryption method.

302. (previously presented): The printer of claim 300, wherein the controller is further configured to store the re-encrypted supply information in the memory of the supply circuit.

303. (previously presented): The printer of claim 299, wherein the supply information includes a security code.

304. (previously presented): The printer of claim 299, wherein the supply information includes a number of prints completed.

305. (previously presented): The printer of claim 299, wherein the supply information includes a number of prints remaining.

306. (previously presented): The printer of claim 299, wherein the memory includes a number of prints remaining and the controller is further configured to decrement the number of prints remaining in the memory of the supply circuit in response to use of the print ribbon.

307. (previously presented): The printer of claim 306, wherein the controller is further configured to disable use of the memory when the number of prints remaining reaches a predetermined end value.

308. (previously presented): The printer of claim 299, wherein the memory includes a value and the controller is further configured to adjust the value based on use of the print ribbon.

309. (previously presented): The printer of claim 308, wherein the value corresponds to a number of prints remaining.

310. (previously presented): The printer of claim 308, wherein the controller is further configured to disable use of the memory when the value reaches a predetermined end value.

311. (previously presented): An identification card printer comprising:  
a ribbon cartridge containing a supply of print ribbon;  
a supply circuit mounted to the ribbon cartridge, the supply circuit including a memory containing supply information including a value;  
a supply circuit reader configured to communicate with the supply circuit; and  
a controller configured to access the supply information using the supply circuit reader and to adjust the value based on use of the print ribbon.



312. (previously presented): The printer of claim 311, wherein the value corresponds to a number of prints remaining and the controller is configured to decrement the value in response to use of the print ribbon.

313. (previously presented): The printer of claim 312, wherein the controller is further configured to disable use of the memory when the value reaches a predetermined end value.

314. (previously presented): The printer of claim 311, wherein the controller is further configured to disable use of the memory when the value reaches a predetermined end value.

315. (previously presented): The printer of claim 311, wherein the supply information includes encrypted supply information and the controller is configured to decrypt the encrypted supply information.